

## Claims

- [1] A washing machine comprising:  
a control panel for selecting a wash cycle;  
a sensor for sensing a load of laundry inside a drum during an operation of the wash cycle selected through the control panel; and  
a control unit for conducting the wash cycle selected through the control panel and controlling an rpm speed of the drum according to the sensed load of laundry sensed by the sensor, for untangling the laundry.
- [2] The washing machine according to claim 1, wherein the control unit controls a spin cycle of a wash course according to the load of laundry sensed by the sensor, when the spin cycle is begun.
- [3] The washing machine according to claim 2, wherein the control unit controls an accelerating rate of the rpm speed of the drum differently, when the load of laundry sensed by the sensor is a small load.
- [4] The washing machine according to claim 3, wherein the sensor senses whether the load of laundry inside the drum is a small, small to medium, medium, medium to large, or large load, and the control unit establishes ranges when the load of laundry is sensed by the sensor to be a small to medium or a smaller load and controls the accelerating rate of the rpm speed of the drum in different accelerating rates.
- [5] The washing machine according to claim 4, wherein the established ranges include a first range between 400ms/1rpm and 350ms/1rpm and a second range between 190ms/1rpm and 160ms/1rpm for raising the rpm speed of the drum at an accelerating rate.
- [6] The washing machine according to claim 1, wherein the control unit controls a spin cycle according to whether the load of laundry sensed by the sensor is a single article, when the rinse cycle is begun.
- [7] The washing machine according to claim 6, wherein if the load of laundry sensed by the sensor is a single article, an untangling cycle for rotating the drum at a predetermined rpm speed over a predetermined duration is implemented.
- [8] The washing machine according to claim 7, wherein the predetermined rpm speed at which the drum is rotated in the untangling cycle is in a range of 35 to 37 rpms.
- [9] The washing machine according to claim 7, wherein the untangling cycle

includes an rpm accelerating rate thereafter a predetermined amount greater than an rpm accelerating rate therebefore.

[10] The washing machine according to claim 7, wherein the untangling cycle includes an rpm accelerating rate therebefore of between 190ms/1rpm and 160ms/1rpm, and an rpm accelerating rate thereafter of 60ms/1rpm.

[11] A controlling method of a washing machine having a control panel, a sensor, and a control unit, the controlling method comprising:

selecting a wash cycle through the control panel and inputting operating commands;

conducting by the control unit of the wash cycle selected through the control panel when the operating commands are inputted;

sensing a load of laundry through the sensor when a spin cycle begins in the wash cycle;

implementing by the control unit of an rpm accelerating rate of a drum differently and untangling the laundry, according to the sensed load of laundry; and

conducting the spin cycle when the untangling of the laundry is completed.

[12] The controlling method according to claim 11, wherein the untangling of the laundry includes:

raising an rpm speed of the drum to a preset first rpm speed at a preset first rpm accelerating rate and rotating the drum, when the load of laundry is sensed to be a small load; and

raising the rpm speed of the drum to a preset second rpm speed at a preset second rpm accelerating rate and rotating the drum, when the preset first rpm speed is reached.

[13] The controlling method according to claim 12, wherein the first rpm accelerating rate is in a range between 400ms/1rpm and 350ms/1rpm, and the second rpm accelerating rate is in a range between 190ms/1rpm and 160ms/1rpm.

[14] The controlling method according to claim 12, wherein the conducting of the spin cycle includes:

sensing instability when the second rpm speed is reached, and

beginning the spin cycle when instability is not sensed in the sensing of the instability.

[15] A controlling method of a washing machine having a control panel, a sensor, and a control unit, the controlling method comprising:

selecting a wash cycle through the control panel and inputting operating commands;  
conducting by the control unit of the wash cycle selected through the control panel when the operating commands are inputted;  
sensing through the sensor whether a load of laundry is a single article when a spin cycle begins in the wash cycle;  
rotating by the control unit of the drum at a predetermined rpm speed over a predetermined duration with the control unit according to whether the sensed load of laundry is a single article, and untangling the load of laundry; and  
beginning the spin cycle when the untangling of the load of laundry is completed.

[16] The controlling method according to claim 15, wherein the predetermined rpm speed at which the drum is rotated is in range of 35 to 37 rpms.

[17] The controlling method according to claim 15, wherein the untangling of the load of laundry includes:  
raising the rpm speed of the drum to the predetermined rpm speed at a first accelerating rate and rotating the drum, when the load of laundry is sensed to be a single article;  
maintaining the preset rpm speed and rotating the drum over the predetermined duration, when the predetermined rpm speed is reached; and  
raising the rpm speed of the drum by a second accelerating rate when the predetermined duration is elapsed.

[18] The controlling method according to claim 17, wherein the spin cycle includes:  
sensing instability after the raising of the rpm speed of the drum at the second accelerating rate; and  
conducting the spin cycle when instability is not sensed in the sensing of instability.

[19] The controlling method according to claim 17, wherein the second accelerating rate is greater by a predetermined amount than the first accelerating rate.

[20] The controlling method according to claim 17, wherein the first accelerating rate lies in a range between 190ms/1rpm and 160ms/1rpm, and the second accelerating rate is 60ms/1rpm.